

Title (en)
PRECISION PUMP WITH AUTOMATIC VALVE SWITCHING AND LOW TOLERANCE STACK-UP USING SIDE PORTED CANNULA FOR SMALL VOLUME PUMPING

Title (de)
PRÄZISIONSPUMPE MIT AUTOMATISCHER VENTILUMSCHALTUNG UND GERINGEM TOLERANZAUFBAU UNTER VERWENDUNG EINER KANÜLE MIT SEITENÖFFNUNG ZUM PUMPEN KLEINER VOLUMEN

Title (fr)
POMPE DE PRÉCISION AVEC COMMUTATION AUTOMATIQUE DE SOUPAPE ET FAIBLE ACCUMULATION DES TOLÉRANCES À L'AIDE D'UNE CANULE À ORIFICE LATÉRAL POUR POMPAGE DE PETIT VOLUME

Publication
EP 4126111 A4 20240417 (EN)

Application
EP 21781124 A 20210331

Priority
• US 2021025178 W 20210331
• US 202063005114 P 20200403

Abstract (en)
[origin: WO2021202737A1] A pump for the pumping small volumes of medical fluid is provided. The pump has a manifold chamber having an inlet port and an outlet port. Within the manifold chamber, a cannula having input and output holes oriented with respect to the inlet and outlet ports is rotated within the manifold chamber, and translated axially in a reciprocating manner. The input opening of the cannula overlaps with the inlet port as the manifold chamber volume is increasing to draw fluid into the manifold chamber from the input port. The output opening of the cannula overlaps with the output port as the manifold chamber volume is decreasing to force fluid out of the manifold chamber to the outlet port. The cannula may be formed from metal needle stock.

IPC 8 full level
A61M 5/142 (2006.01); **A61M 5/168** (2006.01); **F04B 7/06** (2006.01); **F04B 9/04** (2006.01); **F04B 13/00** (2006.01)

CPC (source: EP US)
A61M 5/14216 (2013.01 - EP US); **A61M 5/14248** (2013.01 - EP); **A61M 5/16809** (2013.01 - EP); **F04B 7/06** (2013.01 - EP US); **F04B 9/042** (2013.01 - EP US); **F04B 13/00** (2013.01 - EP US)

Citation (search report)
• [XYI] US 2016160854 A1 20160609 - DEHAN CHRISTOPHE [FR], et al
• [Y] WO 2013046156 A1 20130404 - SENSILE PAT AG [CH], et al
• [A] US 2006053830 A1 20060316 - ADAMS ANDREW W [US]
• [A] US 2017184091 A1 20170629 - FOCHT KENNETH [US], et al
• [A] US 5494420 A 19960227 - MAWHIRT JAMES A [US], et al
• See references of WO 2021202737A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
WO 2021202737 A1 20211007; AU 2021247156 A1 20221110; CA 3174348 A1 20211007; CN 216908805 U 20220708; EP 4126111 A1 20230208; EP 4126111 A4 20240417; JP 2023520457 A 20230517; US 2023321341 A1 20231012

DOCDB simple family (application)
US 2021025178 W 20210331; AU 2021247156 A 20210331; CA 3174348 A 20210331; CN 202120684742 U 20210402; EP 21781124 A 20210331; JP 2022559910 A 20210331; US 202117995244 A 20210331